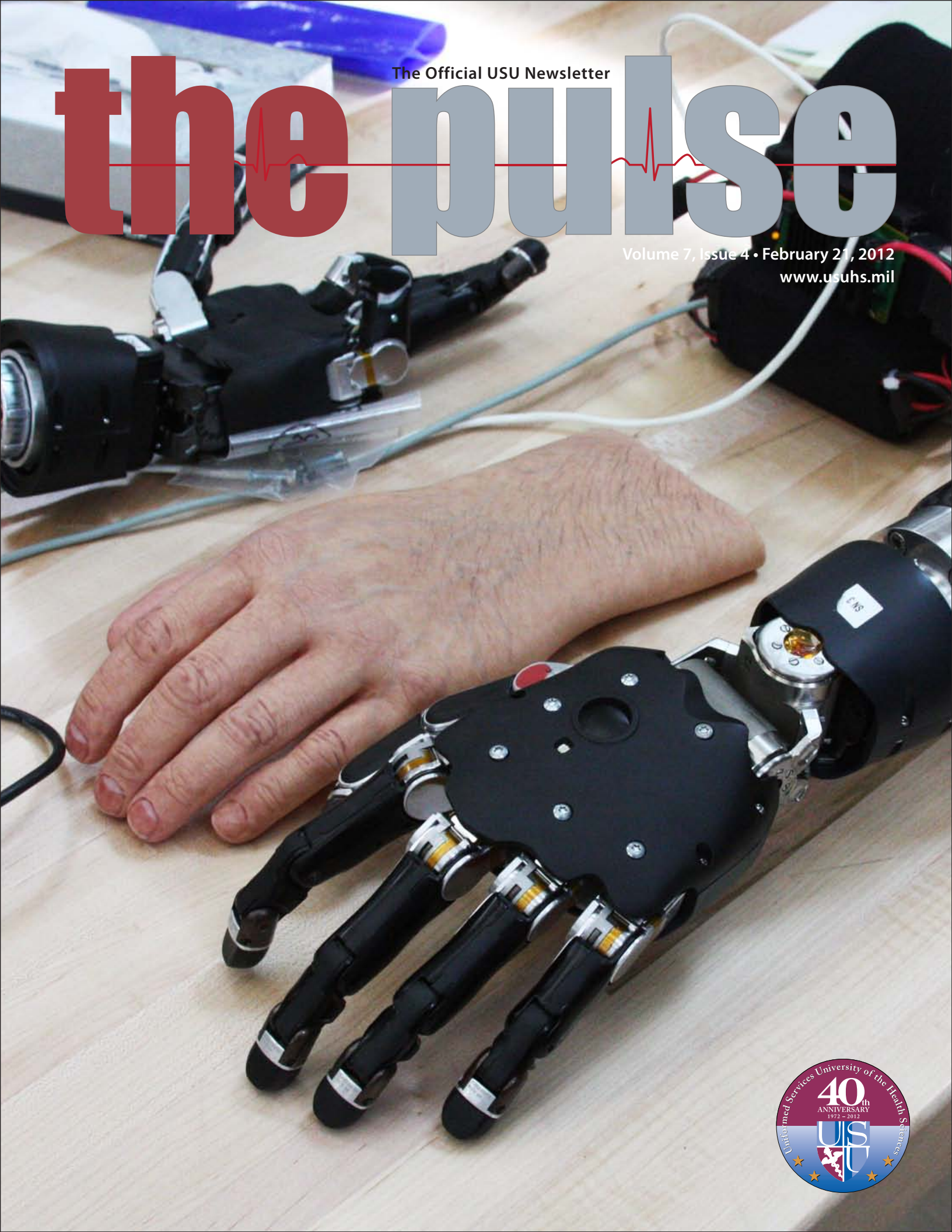

the pulse

The Official USU Newsletter

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USU

the pulse

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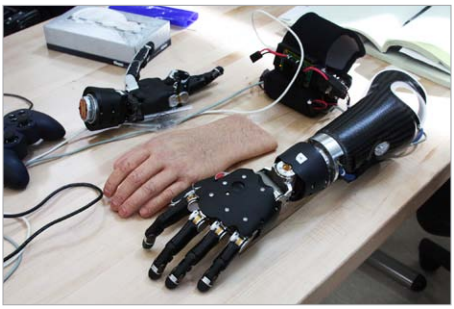


Photo by U.S. Navy photo by Sarah Fortney/Released

On the cover

The Modular Prosthetic Limb (MPL) was developed as part of a four-year program by the Johns Hopkins Applied Physics Laboratory, along with Walter Reed National Military Medical Center and the Uniformed Services University of the Health Sciences. The brain-controlled prosthetic has nearly as much dexterity as a natural limb, and allows independent movement of fingers. The MPL was used by wounded warriors at the Walter Reed National Military Medical Center for the first time Jan. 24, 2012.
(See story page 3)

USU Educator Recognized for Outstanding Contributions

By Sharon Willis

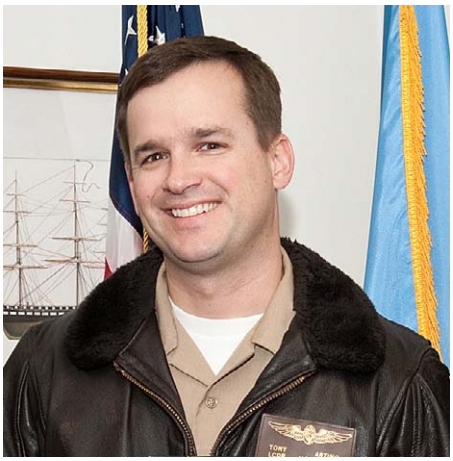


Photo by Thomas C. Balfour

Navy Cmdr. Anthony Artino, Jr., Ph.D.

One of USU's outstanding educators has also been recognized as such by his alma mater.

Navy Cmdr. Anthony Artino, Jr., Ph.D., associate professor in the Department of Preventive Medicine and Biometrics and Department of Medicine at USU, was selected to receive "The Outstanding Young Professional" award by the University of Connecticut (UConn) Neag School of Education. The award is given to "educators who have made significant contributions across all levels of education," according to the statement issued by the Neag Alumni Society. Artino is a 2008 graduate of the school.

Artino, whose background is in educational psychology with an emphasis in cognition and instruction, mentors graduate students and teaches in the Master of Health Administration and Policy and Master of Public Health degree programs at USU. He is also the Principal Investigator on several funded research projects and is the co-director of the F. Edward Hébert School of Medicine's Long-Term Career Outcome Study. In his research role, Artino leads a team of scientists trained in psychology, physiology, and medicine. The interdisciplinary team studies various aspects of human motivation, learning, and performance across the medical education continuum and on into clinical practice.

The award will be presented to Artino during the Neag Alumni Society's 14th Annual Awards Dinner on March 31 in Storrs, Connecticut.

Did you know…

USU was chartered by an act of Congress 40 years ago. The university's first administrators worked out of rented office spaces above a local drug store and bank in downtown Bethesda. The first cohort of medical students – just 32 military officers – didn't begin attending class on USU's new campus on the National Naval Medical Center grounds until 1977. Since then, the university has grown significantly, both in size and scope. In fact, more than 6,300 physicians, nurses and scientists have graduated from USU already.

This year, the university will also confer master's degrees to advanced practice military dentists for the first time ever. This expansion and others before it have transformed the once-humble medical school into a major health sciences university with a much broader academic reach.

USU Center helps develop brain-controlled prosthetic arm

By Sarah Fortney, Walter Reed National Military Medical Center Public Affairs

A new prosthetic arm - operated by an individual's thoughts - was used by wounded warriors at the Walter Reed National Military Medical Center (WRNMMC) for the first time Jan. 24.

With nearly as much dexterity as a natural limb, 22 degrees of motion, and independent movement of fingers, the Modular Prosthetic Limb (MPL) was developed as part of a four-year program by the Johns Hopkins University Applied Physics Laboratory (APL), along with WRNMMC and the Uniformed Services University of the Health Sciences (USU). On Jan. 24, a wounded warrior began using the nine-pound device, maneuvering its metallic fingers and wrist.

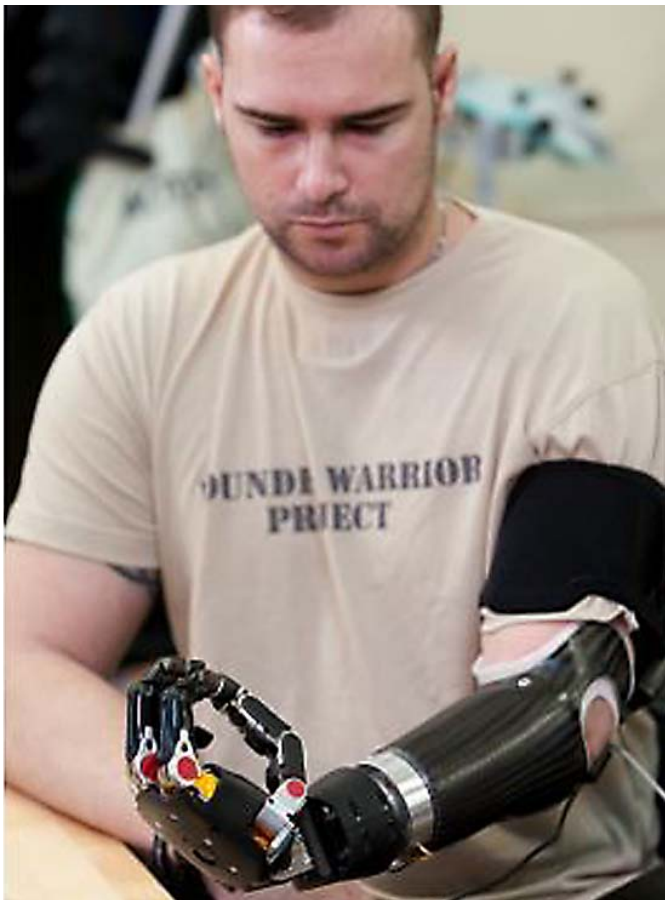


Photo by Edward G. Whitman, JHU Applied Physics Laboratory

Air Force Tech. Sgt. Joe Delauriers is the first to use the Modular Prosthetic Limb, which was developed by the Johns Hopkins Applied Physics Laboratory in conjunction with USU's Center for Rehabilitation Science Research and the Walter Reed National Military Medical Center.

"We've been working with [the APL] since the start of this project and we're very excited about the opportunity [to have] our first individual using this hand," said Col. (Dr.) Paul Pasquina (SoM '91), chief of Orthopaedics and Prosthetics at WRNMMC and director for the Center for Rehabilitation Science Research at USU. "We believe very strongly that those who are willing to put their lives in harm's way deserve the very best. Through this revolutionizing project, we've worked with the greatest manufacturers across the globe to come up with modern solutions to loss of an upper limb."

Pasquina explained the limb is controlled by surface electrodes, which pick up electric signals generated by the muscles underneath the skin, then convert those patterns in electrical signals into a robotic function.

"We wanted to make [the MPL] as intuitive as possible. Normally, when you move your hand, you think about moving your hand, and a signal comes down from your brain, goes down through your spinal cord, out through your limb and activates muscles in your hand to open or close [the hand]," Pasquina said.

With an amputee, the nerves traveling down the spinal cord are still intact, and they're still connected to some of the muscles in the arm, Pasquina said. "What we try to do is pick up the electrical signals of the muscles that still exist in the arm and interpret those, convert them to a computer signal to then drive a robotic limb," he said. "When an individual is thinking about closing their hand, muscles will activate and the prosthetic limb will respond accordingly."

Pasquina noted the potential future of this limb. Engineers seek to use electrodes underneath the skin for an electrical signal with much higher fidelity. Researchers also look to explore other mechanisms to rewire nerves.

"There are folks working very hard on elec trical sensors that can go directly on nerves, and electrical sensors that can be embedded in the brain," he said. "It's very exciting to see that research and we've been privileged to partner with a lot of folks working on that. I think there's still a lot to be learned on how the human body can integrate with computers and computer interface, and I think the sky's the limit in terms of what we will do over the next five to ten years."

The next logical phase in the MPL's development is to incorporate sense of touch, and apply this technology to prosthetic legs in the future, said Cmdr. Jack Tsao, director of the Traumatic Brain Injury Programs for Navy Medicine's Bureau of Medicine and Surgery. A neurologist who also assisted in the project, Tsao said fortunately many amputees have expressed interest and seem willing to participate and help advance this research.

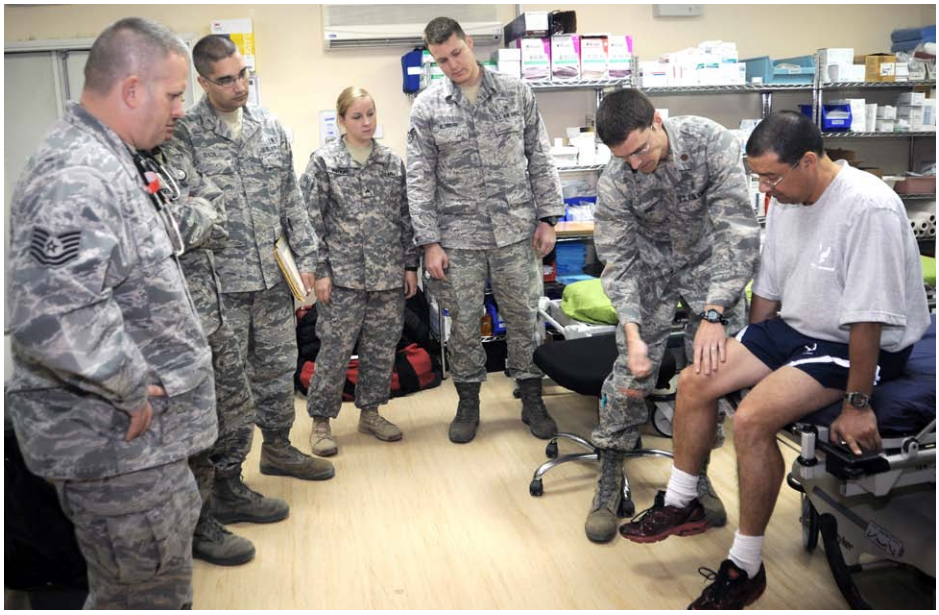
"What I think is fantastic is that we actually, because of this study, now have another option to treat amputees," said Tsao.

Before being fitted to use the device, Tsao explained amputees must first go through "training," using the Virtual Integrated Environment (VIE), which records an individual's muscle movements. By collecting their muscle

Continued to page 5

USU alumnus named Educator of the Year

By Staff Sgt. J.G. Buzanowski, 380th Air Expeditionary Wing Public Affairs/VPE staff



U.S. Air Force photo/Staff Sgt. J.G. Buzanowski

Maj. (Dr.) Christopher Bunt teaches a class on examinations to several deployed medical professionals Feb. 8, 2012. Bunt, a Pittsburgh native deployed from Offutt Air Force Base, Neb., was recently named the Air Force Physician Educator of the Year. He is currently serving as the chief of the medical staff at the 380th Expeditionary Medical Group.

A USU alumnus deployed to the 380th Expeditionary Medical Group was recently named the Air Force Physician Educator of the Year.

Maj. (Dr.) Christopher Bunt (SoM '04) is deployed from Offutt Air Force Base, Neb., where he is the associate residency program director for 70 family medicine residents in the largest military and civilian residency program in the U.S.

The award recognizes outstanding performance by a full-time faculty member who is actively engaged in the medical education of students, residents and fellows.

"I wouldn't have won this award if it weren't for the teachers I've had in my life," Bunt said. "They encouraged me and made me work outside of my comfort zones. So I owe a lot to the people who helped me get where I am today."

According to Bunt, those teachers include USU Family Medicine faculty members, Navy Captain (Dr.) Mark Stephens and Dr. Brian Reamy.

"Drs. Stephens and Reamy have offered me their support, provided me with inspiration and instilled in me the daily desire to improve my teaching and learning," Bunt said.

"Dr. Bunt is truly an inspiration. He is a man of integrity, honor, duty and service, and he embodies everything that is right in medical education," Stephens said.

Bunt, a Pittsburgh native, developed and implemented techniques to enhance the teaching capabilities of the residency faculty at Offutt and the University of Nebraska Medical Center. His goal as the faculty development director is to make sure everyone has the tools and training they need to teach the next generation of doctors.

"In my opinion, if you're a teacher and you've not had assistance to make you a better instructor, then we're not doing our jobs," Bunt said.

Bunt applies his background as a medical educator during regular training sessions at the 380th EMDG, where he is the chief of the medical staff. He's shown members of the staff various techniques to help doctors and nurses give more efficient care to patients.

"He's taught us about doing different kinds of exams so we're better able to prepare the doctors before they see a patient," said Airman 1st Class Paige Hill, deployed from Nellis AFB, Nev. "Eye exams are especially a big deal here, so he showed us how to look for foreign objects. It's made us a lot more efficient."

Col. Kevin Glasz, the 380th EMDG commander, called him a "key member of the team."

"His level of dedication to the education process is amazing," the colonel said. "We're proud of what he's doing for us here and we're lucky to have him on our staff."

Brain-Controlled Prosthetic Arm

Continued from page 3

data, the MPL is then suited for the individual. This gives the amputee time to learn how to use the device, fit them for it, then see how they work with it, he said.

Air Force Tech Sgt. Joe Delauriers, the first patient at WRNMMC to begin using the MPL, described the device as "pretty comfortable," and said he is grateful for the opportunity to be involved with the project.

"It's really fun working with the hand and [exciting] to see what's going to be coming in the future," said Delauriers. "Any input I can put into the program, to help them out, and future amputees, it's an honor for me. It's very rewarding."

Four months ago, Delauriers was injured by an IED blast in Afghanistan, which caused him to lose both his legs and part of his left arm. He said it's an indescribable feeling to be where he is today, thanks to advancements in care.

"I'm living off base, I'm driving, [and] I'm living with my [infant] son. I'm able to hold him without any open wounds, infections," he said. "They do such a great job here, with therapy. It's just amazing." The Airman said he can only imagine what these advancements will lead to in another decade.

"The technology is only going to keep getting better," said Tsao. "If guys like Joe can regain function, this would be revolutionizing to their lives, especially in the multiple limb amputees. Any degree of function and independence you can give back to someone is the most important thing." Pasquina also expressed his enthusiasm for this development, stating that he can recall when the device was merely a sketch on paper.

"It's something I still find amazing," Pasquina said. He is also amazed by the stories of the wounded warriors making such strides in their recovery.

"Time after time, you see people not only recover, but thrive after severe injuries, and they're inspirational to all of us, to us as medical staff who have the honor of taking care of them. It's humbling to be a part of that," he said.

Pasquina added that he'll continue his efforts to make this technology available to all service members and the population at large.

"The hand in itself is so important in terms of one's independence. Your ability to dress yourself, feed yourself, do self-grooming and hygiene is extremely important," said Pasquina. "Many of our injured service members were highly functioning, highly independent, had a great amount of responsibility. To now find themselves in a situation where they have an impairment or disability, that makes them less independent is something that not only affects them physically, but affects them emotionally. Anything we can do to [help] them be more independent and to regain that sense of self is something we're fully committed to doing and very excited about the opportunities that this presents."

27th Annual David Packard Lecture

Lessons Learned as a Surgical Oncologist

Speaker: Murray F. Brennan, M.D., F.A.C.S.

March 15, 2012, 3:00-4:00 p.m.
Sanford Auditorium

Google Apps 'Go-Live' Date Approaching

Google Apps

The USU community is officially moving to Google Apps beginning in mid-March.

The Google Apps format will replace the University's current Novell GroupWise for its new e-mail and calendar platform services.

The Apps platform will also provide other working features such as Contact, Documents and Sites.

At its core, Google Apps is a collection of Web-based message and collaboration applications. These applications are hosted on Google's own servers and provide these programs as a service to its customers. This means there is no software download or install for customer usage.

Google Apps can also be synchronized with Microsoft Outlook on a customer's desktop. All that is required to access these applications is a Web browser.

The announcement of the shift to Google Apps comes after preparation and pilot testing at USU in the month of December, 2011.

Google Apps is expected to provide many benefits to the USU community. It will allow USU customers access to their e-mail, calendar, contacts and documents at any time from any location. The move will also lower infrastructure costs to the University as well as consolidate work platforms such as GroupWise and Exchange. Google Apps also provides additional features such as document sharing options and instant messaging.

USU began End User Training in early February, prior to e-mail migration. The Google Apps launch will "Go Live" in mid-March.

USU expert named RSNA 2011 Outstanding Educator

By Staff Sgt. Matthew Rosine

A USU professor of Radiology, Neurology and Biomedical Information was named the Radiological Society of North America's 2011 Outstanding Educator of the Year.

Dr. James G. Smirniotopoulos, the Director for Imaging and Diagnostics at the Center for Neuroscience and Regenerative Medicine at USU received the award for his outstanding contributions to education.

As an internationally recognized neuroradiology expert, Dr. Smirniotopoulos has been a pioneer in electronic and online radiologic education. An innovator in correlating radiology and pathology images, he has creatively used animations and drawings, and employed a special approach to education that has enabled him to teach more than 22,000 residents over the past 25 years of dedicated service.

While at USU, Dr. Smirniotopoulos, co-developed MedPix and works as the system's chief editor. MedPix is a Web-based teaching file application. It allows case files to be shared by military physicians around the world.

The MedPix system was patented in 2006 and currently receives more than six million hits each month.

Dr. Smirniotopoulos also created the Washington Neuroradiology Review Course. The renowned course was generated for radiologists, neurologists, neurosurgeons and pathologists. He also works diligently as the editor of the American College of Radiology Learning File. Created from a grant by the U.S. Food and Drug Administration, the file has helped standardize radiologic education across America.

Partnerships to improve military medicine

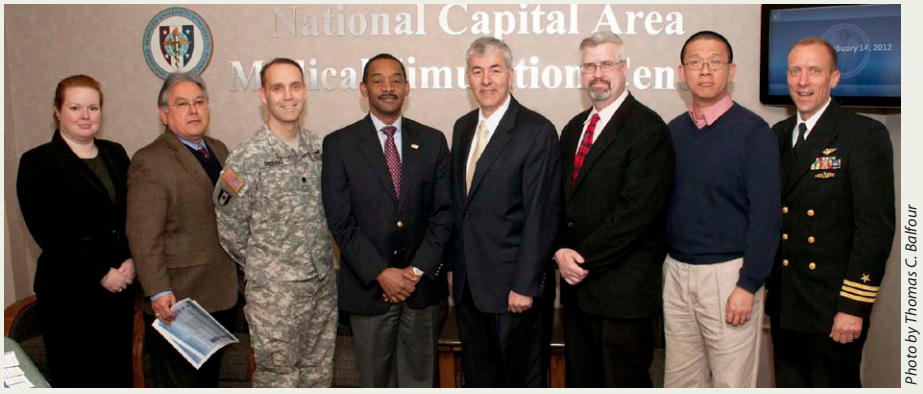


Photo by Thomas C. Balfour

Pictured Ms. Amy Flanagan-Risdahl, Director of Clinical Skills; Dr. Gil Muniz, Deputy Director; Dr. Shad Deering, Deputy Medical Director; Dr. Jonathan Woodson, Assistant Secretary of Defense for Health Affairs; Dr. Joseph Lopreiato, Medical Director; Dr. Mark Bowyer, Director of Surgical Skills; Dr. Alan Liu, Director of Virtual Environments; and Dr. Joe Sullivan, Director of the MOVES Institute at the Naval Postgraduate School.

Dr. Jonathan Woodson, Assistant Secretary of Defense for Health Affairs and Director, TRICARE Management Activity, visited the USU National Capital Area Medical Simulation Center February 14. Dr. Woodson shared his vision of having the Military Health System be the premier platform across the entire nation of teaching and fostering medical simulation to providers.

The SimCenter staff highlighted several ongoing and innovative initiatives for Dr. Woodson including the partnership with the MOVES Institute at the Naval Postgraduate School.

USU earns trio of CFC awards

By Staff Sgt. Matthew Rosine

Helping people in need is nothing new for the USU family. And, the 2011 Combined Federal Campaign chose to recognize USU's dedication and generosity by presenting the University with a trio of awards.

The USU charity drive recently won the CFC's 2011 Merit Award, Summit Award and Participation Achievement Award. These awards represent outstanding achievements during the 2011 CFC campaign.

The Merit Award is presented to an organization that is able to receive 50 percent employee participation or $125 per capita in donations.

The Summit Award is presented to an organization that is able to receive at least a 3 percent increase in donations over the previous year.

And, the Participation Award is presented to an organization that is able to receive at least a 2 percent increase in participation over the previous year.

These awards were displayed during the campaign's close-out breakfast Feb. 14 and are currently on display inside the CFC case in the cafeteria's large dining room.

"I don't think there is really anything more I can say, except that I want to sincerely thank everyone for their valuable and meaningful support," said Capt. Malvis Tarney, the Graduate School of Nursing company commander and 2011 CFC campaign manager. "We did this together."

Overall, USU's CFC drive, led by Tarney and more than 50 volunteers, raised more than $172,000 for the charitable campaign, which ended Jan. 13. The University's original goal was $165,000.

Briefs

Using Computer Resources

Security incidents continue to be a drain to limited USU Information Assurance manpower. The following highlight current DoD policy and best practices:

Personnel must not install self-coded or non-licensed software on network resources; add, remove, configure, or attempt to modify USU computer operating systems or programs; move audio/visual or network cables, computers or attempt to connect personal computers to the network including MDL and lecture hall spaces; connect personal devices except for those previously authorized by NOC; download pornographic material and store or display offensive material, such as racist literature, sexually harassing or obscene language or material; store or process classified information on any USU system.

Personnel must not permit unauthorized individuals access to a government-owned or government-operated system or program; access online gambling, games and social engineering sites, dates or times.

Help Desk Closure

The Customer Service Division (CSD) Help Desk is closed for staff meetings and training on Thursdays from 2:00 PM until 3:00 PM. Online services are still available during this time. Utilize the USU Service Desk (https://usuca/CAisd/pdmweb.exe) to enter your request and it will be serviced accordingly**.**

Exercise/Fitness Areas

Physical Fitness training should be conducted in designated areas.

The only authorized space for PT within the university is room G060.

The campus Student Community Lounge area is also authorized, but only during specified PFT dates or times.

How to apply for DAU Classroom and Web Certification courses

Step One

Log onto the website (use IE) https://www.atrrs.army.mil/channels/acqtas/logon.asp

Step Two

Click the I Agree icon

Step Three

The next screen in the "please sign in below:" area select your Defense Agency. USU is listed as an agency in the drop down box. It's next to the last listing under the Other Defense Agency heading and click on the CAC option button. It will require your digital certificate, click ok. then enter your PIN.

Step Four

From the Main Menu, select Search for Continuous Learning Modules and select one of the following courses to complete. Enter that course number and SELECT

CLG 001 – DoD Government Purchase Card

CLG 004 – Government Purchase Card Refresher Training

CLG 005 – Purchase Card Online System (PCOLS)

The Course will appear in the Search Results field. Click on the course number. If you have taken DAU courses before, your profile will pop up. Confirm that the information, especially the email address is correct. If this is the first time, you will have to complete a profile first.

Step Five

Confirm the information is correct, including your supervisor information. They will not be required to approve these courses since they are on line, no cost sessions. Click Submit Application at the bottom of the form.

Step Six

You will receive an email from DAU with a user ID, password and instructions for completing the course.

Step Seven

Once complete, a copy of the certificate must be forwarded to the APC (Terry Zimmerman) in Contracting.

Once you start the course, make sure after you do the introduction module, you refresh your system to assure the radio button turns orange. If not do not proceed on that computer as the system is not registering your course and you wont be able to take the test or get credit. Try using a different browser or a different computer.

If you have any problems or questions, please call 301-295-3070.

You will need to enter the following when completing the student information form:

Sign in using "all other dept of Navy employees"

Duty location UIC – 68336
SubUIC is VS

UNIFORMED SERVICES UNIVERSITY

of the Health Sciences